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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/395,909 09/14/99 UVLIDEN

A 44559-00003

EXAMINER

WM01/0928

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ARMSTRONG, A	
ART UNIT	PAPER NUMBER

2641
DATE MAILED:

09/28/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/395,909

Applicant(s)

UVLIDEN ET AL.

Examiner

Angela A. Armstrong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 September 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3 and 4. 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 7-14, 16-19, 21-22, and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kao et al (US Patent No. 5,371,853) in view of Lin, ("Ultra-Fast CELP Coding Using Deterministic Multi-Codebook Innovations", ICASSP 1992, International Conference on Acoustics, Speech and Signal Processing, vol. 1, pages 317-320).

3. Regarding claims 1-3, 12-14, 19, and 22, Kao et al teaches

Deterministic codebook selection at col. 9, lines 26-27

Encoding/decoding using selected codebook at col. 9, lines 62-63.

Kao et al do not disclose several sets of codebooks. Refer to Lin who teaches CELP coding using deterministic multi-codebooks (page 317, col. 2 to page 318, col. 1.). Lin teaches that the deterministic sequences improves the voice quality of the coder and significantly reduces the computational complexity of the coder (abstract).

Therefore, it would have been obvious to one of ordinary skill at the time of invention to modify the CELP coder of Kao et al and implement a multi-set codebook of deterministic sequences as taught by Lin, for the purpose of improving the voice quality of the coder and to significantly reducing the computational complexity of the coder, as suggested by Lin.

4. Regarding claims 8 and 17, Kao et al teaches fixed codebooks in the Abstract.

5. Regarding claims 9 and 18, Kao et al teaches algebraic codebooks in the Abstract.
6. Regarding claims 10 and 11, a signal is an audio frame is taught by Kao et al at col. 9, lines 36-43.
7. Regarding claims 7, 16, 21 and 24 random selection is taught by Kao et al at col. 14, line 68-col. 15, line 4.
8. Claims 4-6, 15, 20 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kao et al and Lin in view of Heidari et al (US Patent No. 6,055,496).
9. Regarding claims 4 and 5, Kao et al and Lin do not specifically teach of channel protected parameters with error detection. Refer to Heidari who teaches a CELP speech coder to improve overall system capacity (col. 2, lines 47-49, which implements channel coding that provides error protection (col. 2, lines 64-66).

Therefore, it would have been obvious to one of ordinary skill at the time of invention to modify the CELP coding system of Kao et al and implement a multi-set codebook of deterministic sequences as taught by Lin, and further implement channel coding which provides error protection, as taught by Heidari et al, for the purpose of improving overall system capacity, as suggested by Heidari et al.

10. Regarding claims 6, 15, 20 and 23; Kao et al and Lin do not specifically teach cyclical selection procedures. Heidari et al further teaches circular shifting during the codebook search (abstract, col. 9, lines 1-64).

Therefore, it would have been obvious to one of ordinary skill at the time of invention to modify the CELP coding system of Kao et al and implement a multi-set codebook of

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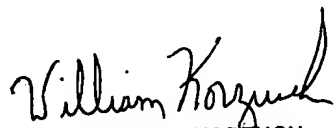
deterministic sequences as taught by Lin, and further implement circular shifting during the codebook search as taught by Heidari et al, for the purpose of improving overall system capacity, as suggested by Heidari et al.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela A. Armstrong whose telephone number is 703-308-6258. The examiner can normally be reached on Monday-Thursday 7:30-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William R. Korzuch can be reached on 703-305-6137. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-6306 for regular communications and 703-308-6296 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

AAA
September 21, 2001


WILLIAM KORZUCH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800